

**A b s t r a c t**

To detect a failure of a compressed air consumer circuit in a compressed air system for vehicles, the pressure is continuously measured in the compressed air consumer circuits (26, 28, 30, 32, 34, 36) and evaluated in an electronic control unit (84), which compares the pressure values and/or determined negative pressure gradients of the compressed air consumer circuits with a respective threshold value (S) and shuts off the air-consumer circuit in question if the pressure values and/or negative pressure gradients thereof satisfy a circuit-failure criterion. The circuit-failure criterion is satisfied when the pressure values and/or pressure gradients are below the respective threshold value for a time  $t$  equal to or longer than the time  $t_{dyn}$  of a dynamic pressure change or of a dynamic pressure collapse ( $t \geq t_{dyn}$ ).